

Claims

1. Assembly for use in the attachment of a patient's vaginal apex or uterus or rectum to her/his spine, comprising a first tube having a length adapted to the distance from the outer wall of the patient's abdomen to the sacrum, which first tube is provided with a distal end to be brought into engagement with the sacrum and comprising an opposite proximal end and having a first passage from the distal to the proximal end thereof, a second tube or rod having a length that at least equals the length of the first tube, which second tube or rod is provided with a distal end and comprises an opposite proximal end, at least one attachment means provided with a distal end for attachment to the sacrum and a proximal end for attachment of an end of connection means for connection to the patient's vaginal apex or uterus or rectum, such as one or more threads, wherein the distal end of the second tube or rod and the proximal end of the attachment means are formed for functional mutual engagement, wherein the second tube or rod can be movably accommodated in the first tube - preferably snugly -.

2. Assembly according to claim 1, wherein the second tube or rod can be rotatably accommodated in the first tube.

3. Assembly according to claim 2, wherein the attachment means is a bone screw.

4. Assembly according to claim 2 or 3, wherein the proximal end of the second tube or rod is provided with means for rotation of the second tube or rod.
- 5 5. Assembly according to claim 4, wherein the rotation means comprise an arm that is transverse to the second tube or rod, preferably projecting to both sides.
6. Assembly according to any one of the preceding claims, wherein the
10 distal end of the second tube or rod is formed for fittingly, particularly rotation-fixedly holding the proximal end of the attachment means.
7. Assembly according to claim 6, wherein the second tube or rod has an internal cavity, which is at least formed at the distal end.
- 15 8. Assembly according to any one of the preceding claims, wherein the second tube or rod extends into the first tube and at least a part of the connection means is attached to the attachment means and situated within the first tube.
- 20 9. Assembly according to claim 8, wherein the said part of the connection means is situated between the first and the second tube or rod.
- 25 10. Assembly according to claim 9, wherein the distal end of the second tube or rod is narrowed for together with the first tube forming an accommodation space for said part of the connection means.
- 30 11. Assembly according to claim 9 or 10 and claim 7, wherein the distal end of the second tube or rod forms an accommodation space for the proximal end of the attachment means and is provided with a

passage to the side, wherein an end portion of the said part of the connection means, such as a thread, extends through the passage.

12. Assembly according to any one of the claims 1-7, wherein at least
5 a part of the connection means is attached to the attachment means and is situated around the distal end of the second tube or rod.

13. Assembly according to any one of the claims 8-12, wherein the
10 said part of the connection means comprises a mat of material enabling bodily tissue ingrowth.

14. Assembly according to claim 12 or 13, wherein the mat is wrapped or shirred up around the second tube or rod.

15 15. Assembly according to any one of the preceding claims, wherein the attachment means has a diameter that at least almost corresponds to the diameter of the first passage.

20 16. Assembly according to any one of the preceding claims, wherein the second tube or rod at the proximal end is provided with gauge means related to the sliding of the second tube or rod in the first tube corresponding to the attachment length of the distal end of the attachment means.

25 17. Assembly according to any one of the preceding claims, wherein the distal end of the first tube is provided with a serrated edge.

18. Assembly according to any one of the preceding claims, wherein the first tube is provided with a handle near the proximal end.

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19. Assembly according to any one of the preceding claims, wherein the connection means comprise one or more threads that are attached

to the attachment means and/or comprise a mat of material enabling bodily tissue ingrowth, which mat preferably can be attached to threads.

- 5 20. Assembly according to any one of the preceding claims, further comprising a laparoscope.

21. Assembly according to any one of the preceding claims, sterilely accommodated in a hermetically closed packaging.

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22. Assembly according to claim 21, further comprising a viewing screen that is functionally connected to the laparoscope.

- 15 23. Method for attaching the vagina, uterus or rectum to a patient's spine, wherein one or more connection means, particularly a mat of material enabling bodily tissue ingrowth, are introduced into the abdominal cavity and are attached to the spine by means of attachment means, after which connection means are attached to the vagina, particularly the rear side of the apex area of the vagina, uterus or
20 rectum.

24. Method according to claim 23, wherein the mat already attached to the attachment means is inserted into the abdominal cavity.

- 25 25. Method according to claim 23 or 24, wherein bone screws are used as attachment means.

26. Method according to claim 23, 24 or 25, wherein the attachment means are attached in the sacrum, particularly below the first segment
30 thereof.

27. Method according to any one of the claims 23-26, wherein an incision is made in the abdominal wall, a first tube is introduced through the incision, until its distal end engages the spine, a bone screw is attached in the spine using a screwdriver extending through the first
5 tube, wherein the connection means, such as mat and/or threads, are attached to the bone screw.

28. Method according to claim 27, wherein the size of the incision is kept adjusted to a guide stub, such as a Trocar, for the insertion of the
10 first tube.

29. Method according to claim 27 or 28, wherein the connection means are inserted in a condition accommodated in the first tube.

15 30. Method according to claim 27, 28 or 29, wherein the screwdriver used has a portion having a diameter that snugly fits the passage in the first tube, as well as a distal portion on which the mat has been arranged.

20 31. Method according to any one of the claims 23-30, wherein prior to inserting the first tube a quantity of gas is introduced into the abdominal cavity in order to enlarge it.

25 32. Method according to claim 31, wherein after filling the abdominal cavity with gas an incision is made in the abdominal wall and a laparoscope is inserted therethrough, which laparoscope is functionally connected to a viewing screen.

30 33. Method according to claim 32, wherein the insertion of the first tube, particularly with the inserted screwdriver with the bone screw placed thereon, is monitored using the laparoscope.

34. Method according to claim 32 or 33, wherein the laparoscope is inserted at a location where the gas has been introduced.

5 35. Method according to claim 32, 33 or 34, wherein further incisions are made through which tools are inserted for moving the intestines and attaching the attachment means, such as a mat and/or threads, to the vagina, uterus (preferably at the location of the ligamenta sacrouterina) or rectum.

10 36. Method according to any one of the claims 31-35, depending on claim 30, wherein the screwdriver fits such into the first tube that a leakage flow of gas between them is prevented to a large extent, so that the abdominal cavity remains at sufficient gas tension.

15 37. Method according to any one of the claims 23-36, wherein use is made of the assembly according to any one of the claims 1-22.

20 38. Assembly for use in the attachment of a patient's vaginal apex, uterus or rectum to her/his spine, comprising a first tube having a length adapted to the distance of the outer wall of the patient's abdomen to the sacrum, which first tube is provided with a distal end to be brought into engagement with the sacrum and comprising an opposite proximal end and having a first passage from the distal to the proximal end thereof, a second tube or rod having a length that is at least equal to the length of the first tube, preferably larger, which
25 second tube or rod is provided with a distal end and comprises an opposite proximal end, at least one attachment means that is provided with means for attachment to the sacrum and means for attachment of connection means, such as one or more threads and/or a connection
30 mat, wherein the distal end of the second tube or rod and the attachment means are formed for functional mutual engagement,

wherein the first passage is suitable for accommodation of the connection means.

39. Assembly according to claim 38, wherein the first passage and the second tube or rod are adapted to each other for fitting accommodation of the second tube or rod.

40. Assembly according to claim 38 or 39, wherein the connection means are disposed between the first and the second tube or rod.

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41. Assembly according to claim 38 or 39, wherein the second tube or rod forms a cavity for accommodation of the connection means.

42. Assembly according to claim 41, wherein the connection means comprise a mat of material and/or threads enabling bodily tissue ingrowth.

43. Assembly according to any one of the claims 38-42, wherein the second tube or rod forms a continuous cavity, from the proximal end to the distal end.

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44. Assembly for use in surgery on a human body, comprising a first tube, provided with a distal end to be brought into engagement with a bone and comprising an opposite proximal end and having a first passage from the distal to the proximal end thereof, a second tube or rod having a length that is at least equal to the length of the first tube, preferably larger, which second tube or rod is provided with a distal end and comprises an opposite proximal end, at least one attachment means provided with means for attachment to the bone and means for attachment of connection means, such as one or more threads and/or a connection mat, wherein the distal end of the second tube or rod and the attachment means are formed for functional mutual engagement,

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wherein the first passage is suitable for accommodation of the connection means.

45. Assembly according to claim 44, wherein the second tube forms a
5 cavity extending from the distal end, preferably to the proximal end.

46. Assembly according to claim 44 or 45, wherein the attachment means is connected to a connection mat.

10 47. Assembly according to claim 46, wherein the connection mat is directly attached to the attachment means, such as by means of a fixation ring or by hooking onto it.

48. Assembly according to claim 46 or 47, wherein the connection mat
15 is accommodated within the first tube.

49. Assembly according to claim 48, wherein the connection mat is accommodated between the first tube and the second tube or rod.

20 50. Assembly according to claim 45, wherein one or more threads that are connected to the attachment means extend through the cavity out of the proximal end of the second tube or rod.

51. Method for attaching the vagina, uterus or rectum to a patient's
25 spine, wherein one or more connection means, particularly connection threads are introduced into the abdominal cavity and are attached to the spine by means of attachment means, after which a mat of material enabling bodily tissue ingrowth connection means is attached to the threads and -preferably prior to it- to the vagina, particularly the rear
30 side of the apex area of the vagina, uterus or rectum.

52. Assembly provided with one or more of the characterising measures described in the attached description and/or shown in the attached drawings.

- 5 53. Method comprising one or more of the characterising steps described in the attached description and/or shown in the attached drawings.